

Application No. 09/558,266

53.

The material of claim 15 wherein the self-assembled structure has a photonic band gap that prevents propagation of light in any direction.

REMARKS

Claims 1, 4-16 and 41-53 are pending. By this Amendment, claim 1 is amended for clarity. Applicants do not intend to narrow the scope of claim 1 by this amendment. The amendment of claim 1 is supported by the specification, for example, at page 39, lines 5-23 and page 45, line 32 to page 46, line 22. No new matter is introduced by the amendment.

Claims 1, 4-16 and 41-53 stand rejected. Applicants respectfully request reconsideration of the rejections based on the following comments. Furthermore, Applicants firmly assert that finality of the Office Action was inappropriate and should be withdrawn.

Request For Withdrawal Of Finality

The Examiner made the Office Action of September 25, 2002 final. However, Applicants filed an RCE on July 9, 2002 requesting the entry of an Amendment After Final dated June 19, 2002. In response to the Amendment After Final of June 19, 2002, the Examiner issued an Advisory Action that indicated that the claim amendments in the Amendment After Final raised "new issues that would require further consideration and/or search." It was clearly an error to indicate that the Office Action was final.

Under MPEP 706.07(b)(emphasis added), "it would **not be proper** to make final a first Office action in a continuing or substitute application where that application contains material which was presented in the earlier application after final rejection or closing of prosecution but was denied entry because (A) **new issues were raised that required further consideration and/or searching**, or (B) **the issue of new matter was raised**." Since the Examiner indicated in the Advisory Action of June 28, 2002 that the claim amendments in the

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Amendment After Final of June 19, 2002 would not be entered since they raised issues of requiring further search, a first office action **final** rejection is clearly inappropriate.

Applicants respectfully request withdrawal of the holding of finality of the Office Action of September 25, 2002.

Rejections Under 35 U.S.C. § 112, First Paragraph

The Examiner rejected claims 1, 4-16 and 41-53 under 35 U.S.C. § 112, first paragraph as containing subject matter that was not described in the specification in such a way to convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Specifically, the Examiner indicated that the portion of the specification indicated by Applicants did not support the "selected characteristic" of "separate islands" as claimed. Applicants maintain that the claims were well supported, as indicated further below. However, to further clarify the claims, Applicants have adjusted the language of claim 1. Applicants note that claims 15, 16 and 45-53 do not have the language pointed out by the Examiner, such that the rejection of these claims for lack of written description does not seem appropriate. Thus, prima facie lack of written description has not been established for any of Applicants' claims. Applicants respectfully request reconsideration of the rejection based on the following comments.

"The purpose of the 'written description' requirement is broader than to merely convey how to 'make and use'; the applicant must also convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession *of the invention*." Vas-Cath Inc. v. Mahurkar, 19 USPQ2d 1111, 1117 (Fed. Cir. 1991) (emphasis in original). "A fairly uniform standard for determining compliance with the 'written description' requirement has been maintained throughout 'Although [the applicant] does not have to describe exactly the subject matter claimed, . . . the description must clearly allow persons of ordinary skill in the art

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to recognize that [he or she] invented what is claimed." Id. at 1116 (citing In re Gosteli, 10 USPQ2d 1614, 1618 (Fed. Cir. 1989)).

In Applicants' specification at page 45, line 34 to page 46, line 4 (emphasis added), it is indicated that "[t]he localization approaches generally involve either activation of the area for the placement of the self-assembled structure or by deactivating locations separate from the selected locations." In the context of forming self-assembled islands, Applicants' specification at page 46, lines 15-21 further indicates that "[s]uitable focused beams to achieve surface modification include, for example, light beams, such as ultraviolet light or x-ray, laser beams, electron beams or ion beams, which can be focused to impinge on the selected region to perform activation or deactivation."

Thus, the patent specification clearly describes selected locations and selected regions that directly correspond to placement of the self-assembled islands, for example, by activation or deactivation. Therefore, there is no basis for the Examiner's assertions that the specification lacks written description of "separate, selected islands". Even though the specification clearly provided written description for the claimed invention in the Amendment of June 19, 2002, Applicants have replaced "selected islands" to read "selected locations" to correspond to the specification language quoted above with respect to the selection process, see page 46, lines 3-4. This amendment is not intended to narrow the scope of the claim but merely to use terms from the specification relating to selecting.

In view of the above comments and amendments, Applicants maintain that the claim is clearly supported by the written description in the specification as filed. Applicants respectfully request withdrawal of the rejection of claims 1, 4-16 and 41-53 under 35 U.S.C. § 112, first paragraph as containing subject matter that was not described in the specification in such a way to convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

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Rejections Under 35 U.S.C. § 103(a)

The Examiner rejected claims 1, 4-8, 11, 12, 15, 16, 41-43 and 45-53 under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent 5,879,827 to Debe et al. (the Debe patent). The Examiner indicated that the Debe patent does not explicitly disclose the range of average particle diameters or a photonic band gap. The Examiner asserted that the photonic band gap would be inherent and the average particle size is an optimizable feature. Applicants maintain that the Examiner has not properly characterized the differences between the Debe patent and Applicants' claimed invention. Thus, the Examiner has failed to establish prima facie obviousness. Applicants respectfully request reconsideration of the rejection based on the following comments and clarifications.

The two initial factual determinations under a Graham analysis are (A) Determining the scope and content of the prior art and (B) Ascertaining the differences between the prior art and the claims at issue. See MPEP 2141 citing Graham v. John Deere, 383 U.S. 1, 148 USPQ 459 (1966). In evaluating the differences between the prior art and the claimed invention, the invention as a whole must be considered. See MPEP 2141.02 citing Stratoflex, Inc. v. Aeroquip Corp. 218 USPQ 871 (Fed. Cir. 1983). Similarly, a prior art reference must be considered "as a whole, including portions that would lead away from the claimed invention." See MPEP 2141.02 (emphasis in original) citing W. L. Gore & Associates, Inc. v. Garlock, Inc., 220 USPQ 303 (Fed. Cir. 1983), cert. denied, 469 U.S. 851 (1984).

Applicants assert that the scope of the prior art has been mischaracterized. Therefore, an evaluation of the differences between prior art and the claims has not been properly characterized in the Office Actions. The Debe patent is characterized in the Office Action of September 25, 2002 as having the same materials with the same function. With all due respect, this is simply incorrect, as explained in detail below. It follows that the

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Debe patent does not teach or suggest a feature of Applicants' claimed invention, specifically, self-assembled structures comprising compositions comprising inorganic particles.

The Debe patent is directed to a fuel cell membrane electrode assembly with microstructured support wiskers comprising acicular nanoscopic catalyst particles. See, for example, the abstract. The microstructures are formed on a substrate. Various organic and inorganic materials and methods are useful for forming the microstructured support wiskers, as described from column 5, line 49 to column 6, line 53 and column 7, line 16 to column 10, line 51. A coating material is applied over the microstructure, in which the coating material comprises the catalysts particles. See, column 10, line 52 to column 15, line 60. Of these materials, only conductive "organic" polymers are described as forming self-assembled layers. See column 10, lines 59-62.

In comparing the claimed invention with the disclosure of the Debe patent, the Debe patent does not disclose self-assembled structures comprising inorganic particles. Specifically, the self-assembled layers of organic conductive polymers disclosed in the Debe patent does not teach or suggest self-assembled structures comprising inorganic particles. Thus, the Debe patent does not render Applicants' claimed invention obvious.

While Applicants do not agree that the average particle diameter are an optimizable feature or that the photonic band gap is inherent in any of the Debe materials, these issues are moot because of the deficiencies of the Debe patent with respect to teaching self-assembled structures comprising inorganic particles. Since the Debe patent does not render Applicants' claimed invention obvious, Applicants respectfully request withdrawal of the rejection of claims 1, 4-8, 11, 12, 15, 16, 41-43 and 45-53 under 35 U.S.C. § 103(a) as being unpatentable the Debe patent.

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Rejections Under 35 U.S.C. § 102(b)

For 11 (8 lines)
The Examiner rejected claims 1 and 8-12 under 35 U.S.C. § 102(b) as being unpatentable over U.S. Patent 5,751,018 to Alivisatos et al. (the Alivisatos patent). The Examiner noted that the Alivisatos patent discloses self-assembled bifunctional organic monolayers as bridge compounds exposed to solutions of nanocrystals. However, the Alivisatos patent does not disclose [separate, selected locations] as claimed by Applicants. Therefore, the Alivisatos patent does not prima facie anticipate Applicants' claimed invention. Applicants respectfully request reconsideration of the rejection based on the following comments.

In the Office Action of September 25, 2002, the Examiner asserted that the "reference discloses self-assembled monolayers organized into an assembly of clusters and Fig. 4 supports a plurality of islands." With respect to the concept of "selected island," the Examiner indicated that this was moot since the Examiner took the position that this was new matter. Applicants, however, has clarified that the claimed features relating to selecting locations is not new matter. Therefore, it is clear that the Alivisatos patent does not prima facie anticipate Applicants' claimed invention. Applicants respectfully request withdrawal of the rejection of claims 1 and 8-12 under 35 U.S.C. § 102(b) as being unpatentable over the Alivisatos patent.

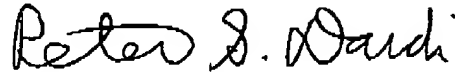
CONCLUSIONS

In view of the foregoing, it is submitted that this application is in condition for allowance. Favorable consideration and prompt allowance of the application are respectfully requested.

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The Examiner is invited to telephone the undersigned if the Examiner believes it would be useful to advance prosecution.

Respectfully submitted,



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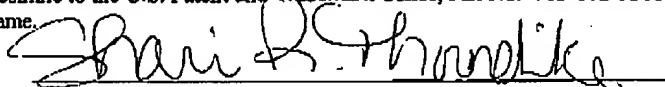
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CERTIFICATE OF FACSIMILE TRANSMISSION

I hereby certify that this paper is being transmitted by facsimile to the U.S. Patent and Trademark Office, Fax No. 703-872-9311 on the date shown below thereby constituting filing of same.

November 22, 2002
Date


Shari R. Thorndike

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ATTACHMENT
MARKED-UP AMENDMENTClaims As Amended

Claim 1 has been amended as follows:

1. (Twice Amended) A material having a layer, the layer comprising a plurality of self-assembled structures comprising compositions, wherein the structures are [localized in separate, selected locations [islands] covering a portion of the layer in an integrated assembly and wherein the compositions comprise inorganic particles.

*indef.**compared to what*